

**WHAT IS CLAIMED IS:**

1. A device for filtering null packets for use with a transmission device that transmits data to a backbone network, the device comprising:

a plurality of interfaces for receiving parallel data;

5 a filter unit to determine respective numbers of data packets and non-data packets of the data from the interfaces and filtering a null packet in the data; and

a controller to determine a bit rate based on the respective numbers of the data packets and the non-data packets of the data.

2. The device as set forth in claim 1, further comprising a network transmission unit for transmitting the filtered data to the backbone network.

3. The device as set forth in claim 2, wherein the transmission device is a MPEG-2 transmission device that transmits MPEG-2 data.

4. The device as set forth in claim 3, wherein the plurality of interfaces includes receiving digital video broadcasting - asynchronous serial interface inputs as channel-by-channel MPEG-2 data in parallel;

5. The device as set forth in claim 4, wherein the backbone network is a TDM-based backbone network.

6. The device as set forth in claim 5, further comprising an information buffer for data transmission in correspondence with a difference between the backbone network's bandwidth and the calculated bit rate.

7. The device as set forth in claim 5 or 6, wherein the filter unit includes:

5       a first counter for discriminating a data packet or a special character packet in the MPEG-2 data input to the filter unit, and counting respective numbers of the discriminated data packets and the discriminated special character packets, and transferring the count information to the controller;

10       a null packet filter for discriminating a null packet using header information in the MPEG-2 data passing by the first counter, and filtering the null packet;

      a second counter for discriminating a data packet or a special character packet in the filtered MPEG-2 data and counting respective numbers of the discriminated data packets and the discriminated special character packets, and transferring the count information to the controller; and

15       a buffer section for outputting the filtered MPEG-2 data to the network transmission unit.

8. The device as set forth in claim 6, wherein the data transmitted through the information buffer includes one of Ethernet data, QAM information and EPG information.

5           9. The device as set forth in claim 7, wherein the bit rate calculation uses the following equation:

$$bitrate(Mbps) = 270Mbps \times \frac{8}{10} \times \frac{x}{x+y},$$

          wherein “x” denotes the count number of data packets, and “y” denotes the count number of special character packets, “270 Mbps” is the transmission speed of a DVB-ASI  
10   physical layer, and a factor “8/10” is attributed to 8B/10B encoding/decoding.

          10. A method for filtering null packets in data transmission to a backbone network, the method comprising the steps of:

          receiving parallel data in a plurality of interfaces;

15       determining respective numbers of data packets and non-data packets of the data from the interfaces;

          filtering a null packet in the data; and

          determining a bit rate based on the respective numbers of the data packets and the non-data packets of the data.

20

          11. The method as set forth in claim 10, further comprising the step of transmitting

the filtered data to the backbone network.